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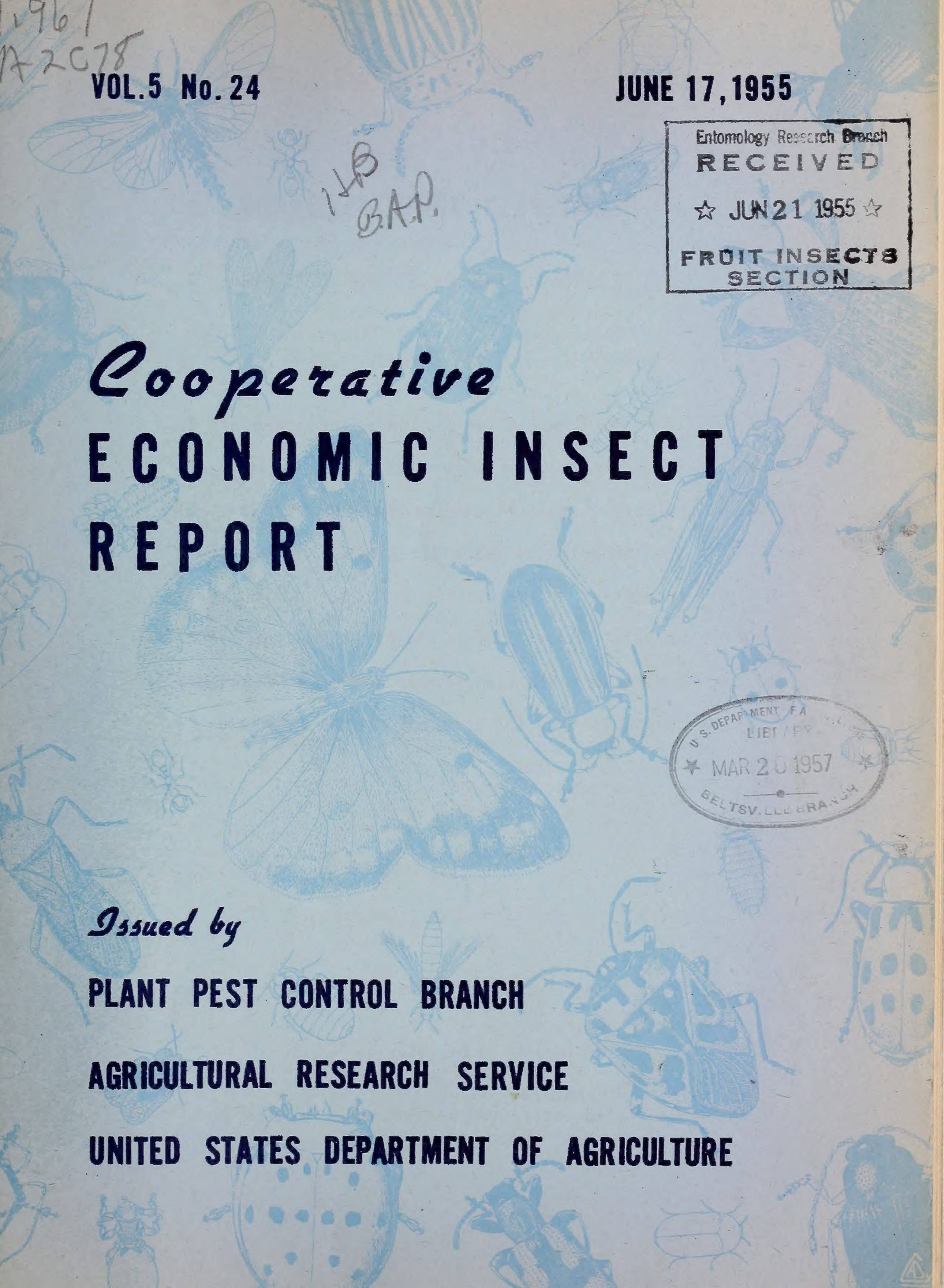

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ECONOMIC INSECT REPORT

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AGRICULTURAL RESEARCH SERVICE
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ECONOMIC INSECT SURVEY SECTION

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Branch serves as a clearing house and does not assume responsibility for accuracy of the material.

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Economic Insect Survey Section
Plant Pest Control Branch
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Volume 5 June 17, 1955 No. 24

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

GRASSHOPPERS becoming heavier southwest and central Missouri, most damage to alfalfa. Increasing in northeast Arkansas, 20-70 per square yard in western Oklahoma, 75-100 some areas of Nebraska, and 60-120 in eastern Kansas. Heavy populations continue in areas of Texas and New Mexico. Hatching continuing in several States with mature Melanoplus mexicanus appearing in Nebraska, Kansas, Utah. (p. 533).

EUROPEAN CORN BORER damage appearing in Delaware and some treatment in early fields in Massachusetts. Heavy egg deposition in New Jersey. Thirty-inch corn in Illinois has 200 egg masses per 100 plants, and 18-inch corn in northeast Nebraska has 18 egg masses per 100 plants. Cool weather retarding activity in Iowa but 10 percent of corn in central and northern area may have heavy first-brood damage if weather favors oviposition and hatching. First economic damage to corn in northern Alabama by this insect. (pp. 533, 554).

CORN EARWORM unusually abundant in Georgia. Damaging corn in areas of South Carolina, Florida and Missouri. Unusually abundant on alfalfa at Yuma, Arizona. (p. 534). CHINCH BUG damaging corn in several areas, especially South Carolina, Georgia, Alabama, and Oklahoma. (p. 534).

The ARMYWORM situation is generally better than in recent weeks or at the same time last year. Delaware reports increasing populations in forage, however, and light population showing up in eastern Nebraska and moderate numbers in several Minnesota counties. Weather has been favorable in Wisconsin. Infestations have been lighter in southern Indiana than last year and parasites have almost eliminated problem in central Missouri. (pp. 534, 554).

ALFALFA WEEVIL reported from Washington for first time, specimens taken in Asotin County. Widespread damage to alfalfa in New Jersey and Delaware. (p. 537).

ARMY CUTWORM moths heavy in areas of Washington and Oregon. (p. 535). SUGARCANE BEETLE still causing damage to corn in Tennessee, Georgia and Mississippi. (p. 535). SOUTHERN CORN ROOTWORM adults heavy in Nebraska corn fields. (p. 536). FALSE WIREWORM adults more abundant in central Kansas than since 1948 and large numbers in southern Oklahoma. (p. 536). GARDEN WEBWORM causing some damage to alfalfa at Stillwater, Oklahoma, moths in large numbers for several weeks at Tallulah, Louisiana. (pp. 537, 556). THRIPS have damaged peanuts in areas of Georgia and North Carolina. (p. 538).

(Continued next page)

PEA APHID increasing in southern Missouri, southern Wisconsin, northern Utah; low spring population at Walla Walla, Washington. (pp. 538, 544). YELLOW CLOVER APHID continues light in Oklahoma, Kansas, and Arizona, but building up in Mesilla Valley, New Mexico. (p. 539). LESSER CLOVER LEAF WEEVIL is heavy on clover in wide areas of Nebraska and two counties of Maryland (pp. 537, 554), and plant bugs are numerous or increasing in several States. (p. 539). Light population of POTATO LEAFHOPPER in Nebraska, 5-20 per sweep in southern Illinois (p. 539)and increasing in Delaware (p. 542).

CODLING MOTH increasing in New Jersey, activity at peak in Michigan and continuing in southern Illinois and Indiana. (p. 540). Second-brood PLUM CURCULIO expected southern Illinois July 1. (p. 540). CHERRY FRUIT FLY adults emerging in Oregon and Washington. (p. 541).

COLORADO POTATO BEETLE hatching at Yakima, Washington; laying eggs in Red River Valley, North Dakota; adults active in southwestern Idaho; larvae abundant Delaware and Maryland. (p. 542). SUGAR-BEET ROOT MAGGOT continues of concern in Larimer and Weld Counties, Colorado, and adults heavy in Walsh County, North Dakota. (p. 543). DIAMONDBACK MOTH more abundant than usual in Delaware. (p. 543). CUCUMBER BEETLES very numerous in New York. (p. 544). LOOPER attack on tobacco in South Carolina unusual. (p. 546). HORNWORMS hatching as far north as Maryland. (p. 546). GREEN PEACH APHID infesting tobacco North and South Carolina, two weeks later than usual on potatoes at Yakima, Washington. (p. 546).

BOLL WEEVIL heavier than last year at this time in Texas, large numbers of adults in spots in Arkansas and at Florence, South Carolina, but populations and infestations generally light in most other areas. (p. 546). BOLLWORM adults common in some areas, larvae showing up as far north as North Carolina. (p. 547). Incomplete cotton bloom inspections for PINK BOLLWORM show considerable increase over 1954 in coastal bend counties of Texas. (p. 547). COTTON FLEAHOPPER increasing in Texas, heavier than usual for time of year in Arkansas. (p. 548). THRIPS damage to cotton continues in many areas. (p. 548). First COTTON LEAFWORM of season reported from San Patricio County, Texas, June 9 (p. 549); first of season 1954, May 31 from Cameron County, Texas.

Some of the outstanding FOREST INSECT activity includes abundance of RED-PINE SAWFLY in Wisconsin (p. 549); widespread severe infestation of EUROPEAN PINE SHOOT MOTH in Michigan and increase of this insect in Wisconsin (p. 550); expected recurrence of defoliation by FALL CANKERWORM in western North Carolina (p. 550); and heavy BIRCH LEAF MINER injury in Rhode Island (p. 550).

Survey methods for JAPANESE BEETLE. (p. 559).
WEATHER SUMMARY. (p. 555).
States reporting this week - 40.

CEREAL AND FORAGE INSECTS

GRASSHOPPERS - WISCONSIN - Checked by continuous cold rain. (Chambers). ILLINOIS - Melanoplus sp. still concentrated in fence rows; control underway. (Petty et al). ARKANSAS - Melanoplus sp. infestation increasing in northeast area; counts up to 50 per square yard. (Warren). MISSOURI - Melanoplus spp.damage becoming gradually heavier in both southwest and central areas. Alfalfa being most heavily damaged in most of the infested area with margins of corn and soybean fields, oats, pastures and gardens also being attacked. From 12-85 nymphs per square yard in alfalfa. Counts in field margins range from 20 to as high as 300 to 400 per square yard. Melanoplus differentialis hatch continuing over northern half of State; dispersal from hatching areas continuing in southern half. (Kyd, Thomas). NEBRASKA - Some early species maturing, especially M. mexicanus. Some areas report 75-100 nymphs per square yard. (Roselle, Andersen). OKLAHOMA - From 20-70 per square yard throughout western part of State; heaviest infestations in Jackson and Comanche Counties. (Flora). KANSAS - Melanoplus spp. continue to hatch. Many areas of eastern part have 60-120 per square yard; adult M. mexicanus in nearly all fields in northeast; nymphs still in field margins; some alfalfa showing injury. (Matthew). TEXAS - Heavy widespread infestations, mostly M. differentialis, in pastures and feed crops in Comanche County. (Dean). Heavy widespread infestations in Kaufman County (Simmons), medium to heavy widespread infestations in Collin County (Dahlberg). NEW MEXICO - Numerous in Lea and Chaves Counties, where 176,000 acres of range land being sprayed; about 42,000 acres in Roosevelt County heavily infested. (Durkin, June 4). WYOMING - Range species second to fourth instar average 30 per square yard on 16,000 acres in Johnson County; control operations expected to begin about June 15. (Spackman). UTAH - Hatch continuing. Some M. mexicanus adults. (Knowlton). NEVADA - Hatch underway in most agricultural areas of western section. Camnula pellucida hatch in White Pine County complete. (Gallaway).

EUROPEAN CORN BORER (Pyrausta nubilalis) - MASSACHUSETTS - Some hatching, requiring treatment in early fields. (Crop Pest Cont. Mess.). NEW JERSEY - Egg deposition heavy, especially in southern area. (Merrill, June 7). DELAWARE - Damage to corn by small borers appearing extensively in Kent and Sussex. (Milliron). VIRGINIA - Medium infestation in a wheat field in Hanover County. (Morris). ALABAMA - Damage to corn in Cullman, Morgan and Marshall Counties; believed to be the first economic damage to corn by this insect in Alabama. (Ruffin). ILLINOIS - Corn about 30 inches high averages 200 egg masses per 100 plants; shorter corn has 70-150 per 100 plants. Sweetcorn planted in late April averages as high as 400 egg masses per 100 plants in some fields. One to 2 percent of total corn acreage in north half may warrant treatment. Emergence practically complete south, 80 percent in central, and 60 percent in north except at Lake Michigan. (Petty et al). NEBRASKA - Forty-nine percent emergence with an average of 18 egg masses per 100 plants in northeast on 18-inch corn; 56 percent emergence in central area with 5 egg masses per 100 plants on 10-15-inch corn; 60 percent emergence in the southeast area and 9 egg masses per 100 plants on 20-inch corn. (Andersen).

CORN EARWORM (Heliothis armigera) - DELAWARE - Adults much in evidence in crops and at lights; few first-instar larvae on corn near Little Creek. (Milliron). VIRGINIA - Feeding on alfalfa in Appomattox County. (Morris, Smith). SOUTH CAROLINA - Damage to corn in Anderson and Saluda Counties. (Nettles). GEORGIA - Damaged 10 percent of stalks of corn in two fields in Tattnall County. (Vanderford). Unusually abundant this year; damaging whorls of corn. (Jordan). FLORIDA - Larvae medium to heavy on corn in Bradford County. (Hunter). MISSOURI - Corn in southwest and west central area has 4-16 percent of stand infested with third to fifth instar larvae working in whorls. (Kyd, Thomas). ARIZONA - Feeding on young tassels of 50 percent of corn in one field in Pima County and eating into whorls of corn in Avra Valley. Unusually abundant on alfalfa at Yuma; one small larva per 10 sweeps. (Ariz. Coop. Rept.).

CHINCH BUG (Blissus leucopterus) - SOUTH CAROLINA - Causing damage to corn over much of coastal area; source of infestation involves wheat. (Kirk). NORTH CAROLINA - Infestations in Duplin and Chatham Counties. (Jones). GEORGIA - Heavy infestations in corn in Clarke and Jackson Counties (Jordan); heavy infestation in Walton County (Youngblood). ALABAMA - Causing damage to corn in Lamar, Tuscaloosa, Pickens, Autauga and Wilcox Counties. (Moore, Arant). MISSOURI - Scattered fields of corn in southwest area moderately infested with average of two adults and 5-11 nymphs per stalk. (Kyd, Thomas). OKLAHOMA - Large numbers migrating into corn in Tulsa and Creek Counties. (Howell).

SUGARCANE BORER (Diatraea saccharalis) - LOUISIANA - Deadhearts appearing in increasing numbers over most of cane belt; counts per acre ranged from 285 in West Baton Rouge Parish to 1174 in Rapides Parish. (Oliver).

ARMYWORM (Pseudaletia unipuncta) - NEBRASKA - Light and spotted in eastern area; more damage to corn than to wheat; 15 of 25 corn plants show feeding. (Andersen). KANSAS - No infestation found in the northeast counties. (Matthew). WISCONSIN - Weather conditions have been ideal for development and reports received from two sections of State. (Chambers). MISSOURI - Parasites all but eliminated armyworm problem through most of central area; light in widely-scattered areas of northern third. (Kyd, Thomas). MINNESOTA - Moderate numbers of second and third instar larvae in LeSeuer, Goodhue, Benton, Washington, Freeborn, McLeod, Mahnomen and West Polk Counties. (Minn. Ins. Rept. Serv.). ILLINOIS - Occasional fields with 10 armyworms per linear foot of row in southeastern area. (Petty et al). INDIANA - Larval infestations in Vincennes area lighter and much less frequent than in 1953 and 1954, though adult populations earlier were comparatively high. (Hamilton). DELAWARE - Small to large larvae increasing in all forage legumes, especially those with grass combinations; migrations from recently-mowed fields into corn observed near Slaughter Beach, Hazlettville; damaging rye in southern New Castle County. Causing marginal injury to corn at some places. (Milliron). VIRGINIA - Severe infestation attacking 35 acres of rye and 2 acres corn in Washington County (Gersline); medium infestation on a farm in southwest Bland County. (Morris).

WHEAT HEAD ARMYWORM (Protoleucania abilinea) - NEBRASKA - Moderate to heavy infestations in east-central and eastern areas in wheat. Average 22 per 25 heads; feeding damage. Range from 14-28 per sweep. (Andersen).

ARMY CUTWORM (Chorizagrotis auxiliaris) - WASHINGTON - Heavy invasion of moths. Larvae very abundant on range and dry land wheat around Wallula and Pasco. (Cook). OREGON - Tentatively identified; moths in numbers in the Milton-Freewater area June 7. (Roth). WYOMING - Damaging corn in Goshen County. (Spackman). UTAH - Damaging range plants in Utah County. (Knowlton).

STALK BORER (Papaipema nebris) - DELAWARE - Light injury to corn at several locations in Sussex County. (Milliron). NEBRASKA - Light damage to margins of late-planted corn in southeastern area. (Andersen).

SOUTHERN CORNSTALK BORER (Diatraea crambidoides) - ALABAMA - Heavy infestation in early corn in Cullman, Morgan, Marshall, DeKalb and Cherokee Counties. (Ruffin).

SUGARCANE BEETLE (Euetheola rugiceps) - GEORGIA - Heavy infestation in corn in Newton County May 26 (Beckham) and in corn in Wilkes County June 6 (Jordan). MISSISSIPPI - Adults caught in one night in a light trap in Oktibbeha County totaled 350; report of damage to corn from Panola County. (Hunsucker, Hutchins). TENNESSEE - Still causing widespread damage to corn in State. (Mullett).

CORN FLEA BEETLE (Chaetocnema pulicaria) - NEW JERSEY - Active but less so than in 1954. (Merrill, June 7). DELAWARE - Bacterial wilt following flea beetle infestations conspicuous in field corn but more pronounced in sweet corn throughout Kent and Sussex Counties. (Milliron).

CORN BILLBUGS - WISCONSIN - *Calendra* spp. reported abundant in corn in southern area. (Chambers). KANSAS - Causing destruction of early-seeded corn in some fields along Missouri River in northeast area; from 40-140 per 100 plants; some stands require replanting. (Matthew). DELAWARE - Approximately one-third of plants injured in a large corn acreage near Masten Corner. (Milliron). ALABAMA - A 100-acre corn field destroyed by *C. maidis* in Montgomery County. Other fields in this river bottom area showed damage. (Moore, Arant).

SOUTHERN CORN ROOTWORM (*Diabrotica undecimpunctata howardi*) - NEBRASKA - Great numbers in corn fields; from 20-53 per 100 plants in northeast and southeast areas. (Andersen).

FALSE WIREWORMS (*Eleodes* spp.) - OKLAHOMA - Large numbers of adults in corn in southern area. (Flora). KANSAS - Adults more abundant in central area than since 1948 outbreak; damage to fall-seeded, untreated wheat expected. (Gates).

SAND WIREWORM (*Horistonotus uhlerii*) - MISSOURI - Scattered infestations in extreme southeast area causing moderate to heavy damage to corn and some garden crops. (Jenkins). First report of damage from this pest in several years. (Kyd, Thomas).

A FLEAHOPPER (*Spanogonicus albofasciatus*) - GEORGIA - Damaging corn in Laurens County May 16. (Duke).

HESSIAN FLY (*Phytophaga destructor*) - PENNSYLVANIA - Moderate to very heavy infestation in most wheat fields in Lycoming County (Gesell); as high as 7 puparia per stem in wheat in Fulton County (Udine).

SEED-CORN MAGGOT (*Hylemya cilicrura*) - DELAWARE - Adults very abundant generally. (Milliron). WISCONSIN - Damage more than usual in southern area. (Chambers).

ENGLISH GRAIN APHID (*Macrosiphum granarium*) - NEBRASKA - Moderate infestation in wheat and oats in eastern and southeastern areas; from 0-8 per head in many fields. (Andersen). UTAH - Common in small grain. (Knowlton).

SOD WEBWORMS - PENNSYLVANIA - Considerable damage to corn in Schuylkill County (Menusan); noticeable damage to corn in Fulton County (Udine).

VAGABOND CRAMBUS (*Crambus vulgivagellus*) - COLORADO - As many as 40 larvae per square foot damaging lawn sod at Loveland. (Exp. Sta.).

WHITE-FRINGED BEETLE (*Graphognathus* sp.) - GEORGIA - First adults near Manassas May 31, Vidalia June 1, and Brunswick June 3. (Vanderford).

BROWN WHEAT MITE (Petrobia latens) - UTAH - Damaging dry land wheat fields east and south of Monticello. (Knowlton, Rudd).

ALFALFA WEEVIL (Hypera postica) - NEW JERSEY - Defoliated many unsprayed fields and damaged some sprayed fields in southern area. (Merrill, June 7). DELAWARE - Abundant adults seriously retarding growth most places; where second growth advanced, larvae and adults injurious. (Milliron). WASHINGTON - Larvae recovered from roadside alfalfa near Clarkston, Asotin County. First record for State. (Portman, Telford). PENNSYLVANIA - Few larvae, many pupae and few adults in York and Franklin Counties; many pupae dead. (Pepper).

LESSER CLOVER LEAF WEEVIL (Hypera nigrirostris) - NEBRASKA - Heavy infestations still in east-central and eastern areas. From 20-25 adults per sweep in red and alsike clover. (Andersen). KANSAS - Adults in all fields of red clover surveyed in northeast; 14-43 per 100 sweeps. (Matthew).

PEA LEAF WEEVIL (Sitona lineata) - WASHINGTON - Numerous on various legumes in Puyallup Valley, especially on vetches and broad beans. (Doucette).

SWEETCLOVER WEEVIL (Sitona cylindricollis) - IDAHO - Heavy adult feeding on roadside and volunteer plants north of Coeur d'Alene and feeding on margins of sweetclover fields in Tensed area. (Barr, June 4).

CLOVER ROOT CURCULIO (Sitona hispidula) - MISSOURI - Light to moderate damage by adults appearing in 3-5 year old stands of alfalfa in southwest area. From 3-12 weevils per square foot. (Kyd, Thomas). MARYLAND - Adults seriously damaging foliage of soybeans planted after clover in St. Marys County. Damage to soybeans by this insect unusual. (U. Md., Ent. Dept.).

A GRAPE COLASPIS (Colaspis sp.) - LOUISIANA - Collected at 81 per 100 sweeps of white clover and 32 per 100 sweeps of red clover, East Baton Rouge Parish. (Oliver).

GREEN CLOVERWORM (Plathypena scabra) - DELAWARE - Moderately abundant in legumes. (Milliron).

A WEBWORM - SOUTH CAROLINA - Causing some damage to lespedeza in Sumter County and appearing in Anderson County. (Nettles).

GARDEN WEBWORM (Loxostege similalis) - OKLAHOMA - Some damage to spotted areas in alfalfa near Stillwater. (Bieberdorf).

CUTWORMS - WASHINGTON - Damaging first cutting of alfalfa and threatening cuttings left for seed near Harrah. (Landis, Schopp). PENNSYLVANIA - Combined with sod webworms have reduced stands of corn 75 percent in some fields in Fulton County. (Udine). DELAWARE - Variegated cutworm (Peridroma margaritosa) common in alfalfa and clover everywhere. Black cutworm (Agrotis ypsilon) continues to destroy corn at Brenford and near Slaughter Beach. (Milliron). WASHINGTON - A yellow-headed cutworm (Apamea amputatrix) damaging bluegrass seed; first report for several years of larval damage by this insect. (Cook). CORRECTION: Under cutworms, CEIR 5(23):507, change "Tennessee" to read "Texas."

ALFALFA CATERPILLAR (Colias philodice eurytheme) - DELAWARE - Numerous in alfalfa at Mt. Pleasant and Middletown. (Milliron).

RED-NECKED PEANUTWORM (Stegasta bosquella) - GEORGIA - Moderate to heavy infestations in peanuts in Albany-Dawson area June 2-3. (Maxwell).

WHITE-LINED SPHINX (Celerio lineata) - GEORGIA - Feeding principally on weeds in pastures, small grains and corn fields in Burke, Screven, Bleckley, Laurens, Treutlen, Jenkins and Houston Counties; tremendous numbers in armies in some areas May 10-20. (Duke, Fortson, Jordan).

THRIPS - NEVADA - Severe populations in alfalfa fields of Clark County; migrating to onions following cutting first crop. (Gallaway). MISSOURI- Light silvering of leaves of soybeans in extreme southeast area; from 2-6 per leaf. (Jenkins). GEORGIA - Heavy damage to peanuts in Albany-Dawson area June 2-3. (Maxwell). NORTH CAROLINA - Rather heavy infestations on peanuts reported from Carteret and Columbus Counties. (Jones).

APHIDS - UTAH - Damaging dry land wheat east and south of Monticello. (Knowlton, Rudd). ARIZONA - Populations on alfalfa still abundant in Greenlee County but decreasing. (Ariz. Coop. Rept.).

CORN LEAF APHID (Rhopalosiphum maidis) - MISSOURI - A few scattered fields of corn and grain sorghum have approximately 35-70 per plant; no damage. (Kyd, Thomas).

PEA APHID (Macrosiphum pisi) - DELAWARE - Light to moderate in some alfalfa fields; heavy one field. (Milliron). NEBRASKA - Building up on new growth alfalfa; from 55 to over 100 per 25 sweeps. (Andersen). UTAH - Increasing in northern area on alfalfa. (Knowlton). MISSOURI - Infestation building steadily on second cutting and spring-seeded alfalfa over southern two-thirds of State. From 9-32 per sweep; considerable yellowing and curling of leaves in heavily infested fields. (Kyd, Thomas). KANSAS - Light to moderate infestations in several alfalfa fields in northeast area; from 80-275 in heavily infested fields. (Matthew).

YELLOW CLOVER APHID (Myzocallis trifolii) - ARIZONA - Generally decreasing on alfalfa in the Yuma and Roll areas and in Salt River Valley due mainly to convergent lady beetle. (Ariz. Coop. Rept.). NEVADA - Severe populations in most alfalfa fields during first cutting. Increasing; lady beetles numerous. (Gallaway). NEW MEXICO - Continue to build up in Mesilla Valley on alfalfa. (Durkin). KANSAS - Light infestations on all fields of sweetclover and red clover surveyed in northeast; very few found in alfalfa. (Matthew). NEBRASKA - Light populations still occur in red, alsike and sweetclover in eastern area; average 35 per 25 sweeps. (Andersen). OKLAHOMA - Small populations in alfalfa in Canadian and Payne Counties. (Flora). LOUISIANA - Collected in substantial numbers in spring of 1951 at Baton Rouge and Bossier City. (CEIR 5(21):449). (Newsom).

A FALSE CHINCH BUG (Nysius sp.) - GEORGIA - Moving from grass into corn and peanuts in swarms in Wilcox County, June 1. (Campbell, Geiger).

A MIRID - WASHINGTON - Heavy populations damaging an untreated field of fescue grown for seed near Dishman. (Johansen).

LYGUS BUGS - NEVADA - Severe populations in alfalfa in southern Nye County. (Gallaway). UTAH - Numerous in alfalfa in northern counties. (Knowlton). NEW MEXICO - Becoming more abundant in alfalfa in Mesilla Valley; 40-50 per 100 sweeps in some fields. (Durkin).

TARNISHED PLANT BUG (Lygus lineolaris) - DELAWARE - Very abundant in forage legumes generally. (Milliron). LOUISIANA - Populations increasing in clovers and alfalfa; 306 per 100 sweeps of white clover and 126 per 100 sweeps of red clover, East Baton Rouge Parish; 72 per 100 sweeps in Natchitoches Parish. (Oliver).

POTATO LEAFHOPPER (Empoasca fabae) - NEBRASKA - Light populations, 10 per 25 plants, in alfalfa, corn and early potatoes. (Andersen).

ILLINOIS - In northern and north-central area 1 to 1-1/2 per sweep; 5 to 20 per sweep in southern half. (Petty et al). MD. - Two adults per 50 sweeps in alfalfa in St. Marys and Prince Georges Counties. (U. Md., Ent. Dept.).

MEADOW SPITTLEBUG (Philaenus leucophthalmus) - MICHIGAN - Lighter than usual in southern section. (Hutson).

SPITTLEBUGS - PENNSYLVANIA - Adults becoming very abundant on clover and alfalfa generally. (Pepper).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - LOUISIANA - Occurring at 18-36 per 100 sweeps in alfalfa in Bossier, Natchitoches and Rapides Parishes; 62 per 100 sweeps of white clover and 51 per 100 sweeps of red clover in East Baton Rouge Parish. (Oliver). TEXAS - Heavy widespread infestation on alfalfa in Wharton County. (Gunter).

A LEAFHOPPER (Dikraneura carneola) - WASHINGTON - Damaging wheat, barley and fescue near Pullman. (Telford).

FRUIT INSECTS

CODLING MOTH (Carpocapsa pomonella) - OREGON - First eggs on pear leaves in sheltered location May 28 in Medford area. (Gentner). MISSOURI - Scarce in most sprayed orchards. (Wkly Rept. Fr. Grs.) MICHIGAN - Activity at its peak during week. (Hutson). ILLINOIS - Hatch continuing in southern area. (Chandler). INDIANA - Emergence from packing houses high; heavy hatch building toward a peak in the Orleans area. (Marshall). Emergence tapering off rapidly but considerable activity expected in next 15 days in the Vincennes area; first-brood eggs laid prior to May 29 have hatched; first larvae to enter fruit are mature and leaving apples. (Hamilton). NEW JERSEY - Increasing throughout State; peak of entry expected about mid-June. (Merrill, June 7). NEW YORK - Emergence continues in several counties; first entries in Rockland County June 8 (Clark); first entry in Lake area June 9, in Niagara County (McNicholas); emergence and egg laying heavy in Orleans County (West).

PLUM CURCULIO (Conotrachelus nenuphar) - NEW JERSEY - Activity on peaches subsiding in northern area; completed in southern. (Merrill, June 7). PENNSYLVANIA - Considerable injury to plums, apples, peaches in unsprayed orchards in Fulton County. (Udine). VIRGINIA - Considerable damage to apples in one orchard in Rappahannock County. (Lyne). ILLINOIS - Moderate to severe and generally greater than in 1954. As heavy or heavier infestation expected with the second brood about July 1 in southern area. (Chandler).

RED-BANDED LEAF ROLLER (Argyrotaenia velutinana) - NEW YORK - Very severe in Columbia County where improperly treated. (Poray). Damage to fruit up to 10 percent in some orchards in Niagara County. (McNicholas). NEW JERSEY - In pupal stage. (Merrill, June 7). ILLINOIS - Increasing in the Centralia area. (Chandler).

APPLE APHID (Aphis pomi) - ILLINOIS - Increasing moderately in southern area. (Chandler). MICHIGAN - Becoming more numerous at Battle Creek and Keeler. (Hutson). NEW JERSEY - Increasing. (Merrill, June 7).

CURCULIOS - RHODE ISLAND - As much as 75 percent of fruit injured on neglected apple trees in Scituate and Allenton areas. (Kantack). NEW YORK - Moderate infestations of plum curculio on prunes in Oswego County. (Lum). Activity continuing in Onondaga County. (Vuillemot).

EUROPEAN RED MITE (Metatetranychus ulmi) - NEW JERSEY - Maturing in southern area. (Merrill, June 7). MICHIGAN - Populations declining. (Hutson).

AN APPLE SAWFLY - NEW JERSEY - Emerging in considerable numbers in Bergen County. (Merrill, June 7).

LEAFHOPPERS - ILLINOIS - Marked increases in unsprayed orchards having crops, in southern area. (Chandler).

PEAR-SLUG (Caliroa cerasi) - WASHINGTON - First adult May 25; numbers by June 10. (Frick, Bry).

ROSY APPLE APHID (Anuraphis roseus) - OREGON - Winged migrants leaving apple trees in numbers June 8 in Medford area. (Gentner).

TWO-SPOTTED SPIDER MITE (Tetranychus bimaculatus) - MICHIGAN - Populations declining. (Hutson).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - SOUTH CAROLINA - Damage to peach terminals in Spartanburg County. (Nettles). IDAHO - Larvae causing damage to twigs in fruit in Homedale area. (Walz, June 4).

EUROPEAN FRUIT LECANIUM (Lecanium corni) - WASHINGTON - Damaging apricots at Wenatchee June 1. (Telford).

CHERRY FRUITWORM (Grapholitha packardi) - NEW JERSEY - Heavy in poorly-dusted plantings or where application was late. (Merrill, June 7).

CHERRY FRUIT FLY (Rhagoletis cingulata) - OREGON - Adults began emerging at The Dalles June 2 (Burts), at Hood River June 6 (Ellertson). WASHINGTON - First adult trapped June 2. Full bloom amd first emergence of fly about 2 weeks later than normal. (Frick, Bry).

BLACK CHERRY FRUIT FLY (*Rhagoletis fausta*) - MICHIGAN - Appeared in numbers at Traverse City June 6. (Hutson).

BLACK CHERRY APHID (*Myzus cerasi*) - UTAH - Increasing and some damage in several counties. (Knowlton et al).

PECAN NUT CASEBEARER (*Acrobasis caryae*) - OKLAHOMA - Eggs appearing throughout State. (Flora).

BLACK PECAN APHID (*Melanocallis caryaefoliae*) - GEORGIA - Heavy on pecans in Ben Hill County, May 20. (Geiger).

TRUCK CROP INSECTS

COLORADO POTATO BEETLE (*Leptinotarsa decemlineata*) - WASHINGTON - Hatching at Yakima. (Landis, Schopp). IDAHO - Entering potato fields in southwestern area. (Walz, June 4). NORTH DAKOTA - Some egg laying in Grand Forks area. (Goodfellow). MARYLAND - Larvae abundant on potatoes and tomatoes in St. Marys County. (U. Md., Ent. Dept.). DELAWARE - Prevalent on potatoes and tomatoes generally; heavy larval injury many places Sussex County; about 50 acres on Primehook Neck being ruined. (Milliron). RHODE ISLAND - Still light in unsprayed fields. (Kantack).

POTATO LEAFHOPPER (*Empoasca fabae*) - DELAWARE - Increasing on potatoes, particularly in Kent and Sussex Counties; appearing in large acreage of snap beans near Bridgeville and in smaller plantings near Harrington. (Milliron). NORTH CAROLINA - *Empoasca* sp. probably *fabae* appearing in numbers in light trap in Duplin County. Light on potatoes, beans and squash). (Brett, Mitchell).

POTATO APHID (*Macrosiphum solanifolii*) - DELAWARE - On potatoes from Middletown southward, most abundant in the Leipsic-Smyrna-Dover area. (Milliron).

TOMATO PSYLLID (*Paratrioza cockerelli*) - COLORADO - Development on matrimonyvine in Larimer County slowed by weather. Fifty adults per 100 sweeps, eggs common but no late-instar nymphs. (Colo. Exp. Sta.). UTAH - Numerous on matrimonyvine at Brigham, Woodscross and Spanish Fork. (Knowlton).

TOMATO RUSSET MITE (*Vasates lycopersici*) - GEORGIA - Damaging tomatoes in home garden in Dougherty County. (Osburn).

TOMATO FRUITWORM (*Heliothis armigera*) - SOUTH CAROLINA - Damage to tomato fruit increasing in Anderson County. (Nettles).

LEAFHOPPERS - NEW YORK - "Hopperburn" on potatoes observed in one area. (Kriner). Building up in unsprayed potato fields in Niagara County. (Stevenson).

TARNISHED PLANT BUG (Lygus lineolaris) - DELAWARE - Unusually prevalent in potatoes generally; much injury near Cheswold. (Milliron).

THRIPS - TEXAS - Heavy widespread infestation on tomatoes in Cherokee County. (Hunby). SOUTH CAROLINA - Large numbers in tomato flowers in 300 acres and may be factor in flower set. (Nettles). NEW YORK - Becoming problem where dry weather persists. (Kriner).

A SUGAR-BEET ROOT MAGGOT (Tetanops myopaeformis) - COLORADO- Continues of concern to beet growers in Larimer and Weld Counties. Loss of stands has caused replacement with corn in some instances. Infestation averaging 12 maggots per beet plant. (Colo. Exp. Sta.). NORTH DAKOTA - Adults in considerable numbers in sugar beet fields in Auburn area, Walsh County, first week in June. (Goodfellow).

CUTWORMS - UTAH - Reduced sugar beet stands 10-20 percent in recent nights in beet-growing areas of Carbon County. (Knowlton).

BEET WEBWORM (Loxostege sticticalis) - WYOMING - Ovipositing on beets in Goshen County. (Spackman).

IMPORTED CABBAGEWORM (Pieris rapae) - DELAWARE - Adults very abundant throughout State; eggs numerous on cabbage generally; second-generation larvae at Georgetown. (Milliron). RHODE ISLAND - One per plant in Wickford area, light damage. (Kantack).

DIAMONDBACK MOTH (Plutella maculipennis) - DELAWARE - More abundant than usual on cabbage in most locations; injury conspicuous several areas. (Milliron).

SPINACH LEAF MINER (Pegomya hyoscyami) - COLORADO - Widespread in sugar beet fields of northeastern area. (Colo. Exp. Sta.).

CABBAGE APHID (Brevicoryne brassicae) - DELAWARE - Ruining cabbage at Townsend; destructive in Sussex County. (Milliron).

CABBAGE SEEDPOD WEEVIL (Ceutorhynchus assimilis) - IDAHO - Low in comparison with previous years but requiring control in some fields. (Manis, June 4).

CABBAGE MAGGOT (Hylemya brassicae) - MICHIGAN - Especially abundant on radishes around Lansing. (Hutson).

CARROT BEETLE (Ligyrus gibbosus) - ILLINOIS - Severe damage to carrots, other vegetables and ornamental plants. (Petty et al).

SEED-CORN MAGGOT (Hylemya cilicrura) - TENNESSEE - Heavy damage in commercial bean area, Johnson County, on untreated seed. (Mullett). MARYLAND - Some concern on snap beans in Caroline County. (U. Md., Ent. Dept.).

MEXICAN BEAN BEETLE (Epilachna varivestis) - NEW JERSEY - Increasing in activity. (Merrill, June 7). MASSACHUSETTS - Requiring control. (Crop Pest Cont. Mess.). NEW YORK - Egg laying underway in Rockland County. (Clark).

PEA APHID (Macrosiphum pisi) - DELAWARE - Increasing on treated commercial peas near Middletown and Brenford. (Milliron). WASHINGTON-Migration from alfalfa to peas not complete until last week in May. Average population in peas in areas usually most subject to infestation was about 11 aphids per 100 sweeps, which is very low spring population. A few fields have around one aphid per sweep. No enation virus observed. (Cook). WISCONSIN - Populations building up in southern area. Some fields required treatment in Green Lake and Iowa Counties. (Chambers).

GREEN CLOVERWORM (Plathypena scabra) - DELAWARE - Prevalent in some commercial peas near Slaughter Beach. (Milliron).

PEA WEEVIL (Bruchus pisorum) - WASHINGTON - First adults collected on alfalfa at Pullman, June 3. (Johansen).

CABBAGE MAGGOT (Hylemya brassicae) - NEW YORK - Damage more common than usual in Wayne County. (Pease). Very little damage in Rockland County. (Clark).

A TORTOISE BEETLE (Metriona sp.) - LOUISIANA - Seven per 100 sweeps of sweetpotato foliage in St. Landry Parish. (Oliver).

SWEETPOTATO FLEA BEETLE (Chaetocnema confinis) - LOUISIANA - Sixty-four per 100 sweeps on sweetpotatoes in St. Landry Parish. (Oliver).

SPOTTED ASPARAGUS BEETLE (Crioceris duodecimpunctata) - MARYLAND - Adults numerous on asparagus ferns, Montgomery County. (U. Md., Ent. Dept.).

HOP APHID (Phorodon humuli - WASHINGTON - Spring migrants leaving prune trees for hops at Wapato. (Landis, Schopp).

CUCUMBER BEETLES - NEW YORK - Extremely numerous. (Kriner).

LEAF MINERS - FLORIDA - Liriomyza sp. averaging 15-30 larvae per leaf on tomatoes at Oxford, Sumter County. First time leaf miners noticed as serious pest on tomatoes in this area. (Hunter, May 19). ARIZONA - Four to 6 or more adults per leaf on watermelon at Litchfield Park, Maricopa County. (Ariz. Coop. Rept.).

FLEA BEETLES - NORTH CAROLINA - Moderately heavy in eggplant in Duplin County. (Brett). RHODE ISLAND - Epitrix cucumeris populations still heavy with 10-30 per plant in unsprayed potatoes over State. (Kantack). IDAHO - Abundant and causing extensive damage in gardens in Moscow area. (Manis, June 4). NEW YORK - Considerable damage to recently-set tomatoes and other plants. (Kriner).

STRIPED CUCUMBER BEETLE (Acalymma vitatta) - DELAWARE - Destructive to squash at Rising Sun and near Georgetown. (Milliron).

SQUASH BUG (Anasa tristis) - NORTH CAROLINA - Light infestation on squash in Duplin County. Eggs hatching. (Brett).

PICKLEWORM (Diaphania nitidalis) - GEORGIA - Moderate infestation in squash and cucumbers in Tift County May 30. (Morgan).

VEGETABLE WEEVIL (Listroderes costirostris obliquus) - SOUTH CAROLINA - Commonly attracted to lights for the first time in three years. (Kirk).

A RASPBERRY SAWFLY (Priophorus morio) - WASHINGTON - Raspberry foliage injured in fields in Puyallup Valley but damage not great. (Doucette).

ORANGE TORTRIX (Argyrotaenia citrana) - WASHINGTON - First emergence on raspberries in Snohomish County observed May 23. (Johanson).

STRAWBERRY ROOT WEEVIL (Brachyrhinus ovatus) - WASHINGTON - Damaging peppermint near Grandview. (Landis, Schopp).

STRAWBERRY LEAFROLLER (Ancylis comptana fragariae) - PENNSYLVANIA - Moderate infestation in strawberries in Northumberland County. (Menusan).

RASPBERRY SAWFLY (Monophadnoides geniculatus) - WISCONSIN - Abundant in raspberry plantings. (Chambers).

TWO-SPOTTED SPIDER MITE (Tetranychus bimaculatus) - NEW YORK - Still problem in many strawberry fields. (Wells).

WIREWORMS - KENTUCKY - Sixty-two percent of 400 tobacco plants from 4-acre field severely injured. Tobacco after sod. (Boush).

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - NORTH CAROLINA - Very light in tobacco in southeastern counties. (Mitchell). VIRGINIA - Light and declining on tobacco in Pittsylvania County. (Dominick). MARYLAND - Heavy on field plants in St. Marys County. (U. Md., Ent. Dept.).

LOOPER ON TOBACCO - SOUTH CAROLINA - A looper, presumably cabbage looper (Trichoplusia ni) occurring on tobacco in outbreak numbers in parts of Williamsburg and Horry Counties; this is an unusual occurrence. (Allen, June 4).

HORNWORMS (Protoparce spp.) - NORTH CAROLINA - Apparently between broods on tobacco, only 8 eggs and larvae in 15 fields in southeastern counties. (Mitchell). GEORGIA - Moderate infestations rather general on pimiento pepper in Spalding and Meriwether Counties, May 20. (Beckham). VIRGINIA - Light in most fields in Chatham area, Pittsylvania County. Light trap catches from 6 traps for week ending June 4 - P. sexta 300, P. quinquemaculata 790. (Dominick). MARYLAND - Hatching on tomatoes in Prince Georges County. (U. Md., Ent. Dept.).

GRASSHOPPERS - GEORGIA - Heavy infestation damaging tobacco in Mitchell, Tift, and Cook Counties, May 30. (Morgan).

GREEN PEACH APHID (Myzus persicae) - SOUTH CAROLINA - General in a large number of tobacco fields. (Allen, Lewis). NORTH CAROLINA- Small scattered colonies in most fields, but quite heavy in Columbus County. (Mitchell). WASHINGTON - Colonization on spring crop of potatoes increasing slowly and about 2 weeks later than usual at Yakima. (Landis, Schopp).

FOUR-SPOTTED TREE CRICKET (Oecanthus nigricornis quadripunctatus) - NORTH CAROLINA - Considerable activity in tobacco in Cumberland and Robeson Counties, one field severely damaged, apparently by combination of egg punctures and wind. (Mitchell).

COTTON INSECTS

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Increasing rapidly in lower Rio Grande Valley and migrating. (Deer). Found at rate of 66 per acre in 14 untreated fields and 21 per acre in 13 treated fields, with average of 36 per acre in McLennan and Falls Counties. (Parencia et al). Much larger numbers than at this time last year in the weevil areas of State. (Davis, Martin). ARKANSAS - Infestations ranged from 0 - 2850 in Ashley-Chico County area and in Lincoln County in cotton beginning to square; up to 1500 per acre in southwest area. (Warren).

LOUISIANA - In 31 of 36 fields inspected in Tallulah area an average of 222 weevils found per acre compared with 419 in 1954; emergence in survival cages completed. (Gaines et al). Up to 108 per acre in Ouachita Parish and to 55 in Rapides Parish. (Oliver). ALABAMA - Not very numerous in some sections; however, two fields in Lee County have 248 and 1,364 weevils per acre. (Arant). Twenty-two fields examined in 3 southeastern and 2 central counties, and 19 found infested. (Moore). MISSISSIPPI - First punctured square in Oktibbeha County this year June 9. (Hester). In most fields in delta counties average of 65 per acre compared with 52 last week. Three fields had infestation of 2-5 percent punctured squares. (Merkl et al). GEORGIA - Infestation in 68 of 71 fields examined in 15 southern counties. Twenty-two untreated fields examined and all infested with average of 8.3 percent punctured squares. Forty-six of 49 treated fields found infested with average of 3.4 percent punctured squares. (J. C. and C. R. Jordan). SOUTH CAROLINA - Total of 258 weevils taken in trap plot at Florence. Total taken to June 10, 1955 - 876; to same date in 1954 - 69. Average of 92 weevils per acre in 4 of 6 fields examined in Florence County. Eleven untreated fields examined and all found infested with average of 14 percent square infestation. Ten treated fields examined and all infested at rate of 10 percent punctured squares. (Walker et al). NORTH CAROLINA - Boll weevil generally very light with counts negative in many fields, but a few fields have counts of 10 or more per 100 plants. (Jones).

BOLLWORMS - ARIZONA - Early this year at Sahuarita; flared squares found in 7 or 8 plants. (Ariz. Coop. Rept.). TEXAS - Increasing in some fields in lower Rio Grande Valley. (Deer). Light populations common in southwest and a few medium populations. (Davis, Martin). LOUISIANA - At Tallulah two fields averaged 3.2 eggs and 1.3 larvae per 100 terminals. (Gaines et al). MISSISSIPPI - Adults common in fields of delta counties; eggs common with occasional larva; requiring some treatment in area. (Merkl et al). ALABAMA - Average number of eggs per 100 terminals in all fields examined; 1.27 percent with 15 of 22 fields infested. (Arant). SOUTH CAROLINA - Showing up in coastal plain counties. (Cott. Lett. June 7). NORTH CAROLINA - Very few larvae in fields surveyed. (Jones, Mistric).

PINK BOLLWORM (Pectinophora gossypiella) - TEXAS - Percent infestation of squares in counties were: Burleson 4.7; Robertson 0.7; Falls 1.0; and McLennan 0.5; Williamson, 2.1 percent of blooms infested in 7 fields. (Parencia et al). High counts of infested squares and rosetted blooms continue in the east, south-central and central areas. (Davis, Martin). In the last half of May, systematic bloom inspections for pink bollworm were made in 25 municipios of Mexico and 22 counties of south Texas. Tabulations show that for the State of Tamaulipas there are only about one-half as many infested blooms as were found last year; about one-third of the fields show some infestation in blooms. In the 4 Rio Grande Valley counties of Texas, the final figures show a more general bloom infestation than that found last year at the same date. Twenty-four percent of the fields examined this year showed light bloom infestations as compared with 12 percent in 1954. In the coastal bend counties, incomplete inspections show a considerable increase in infestation over 1954. There is also an abnormal number of late planted fields compared to the average year, which should bring about some rather heavy populations in the late crop. All inspections of okra fields continued to show negative results. (P.B.W. Cont. Proj.).

Pink Bollworm is reported for the first time from the interior of Colombia according to a report by Carlos Marin H., entomologist with the Instituto de Fomento Algodonero, Bogota, Colombia. (Bishopp). This insect has been reported previously from Atlantic coastal areas of Colombia.

COTTON FLEAHOPPER (Psallus seriatus) - TEXAS - Infestation exceeded 25 per 100 terminals in three untreated fields in McLennan and Falls Counties and averaged 7.3 in treated and untreated fields. (Parencia et al). Still migrating from hosts into fields; increasing over much of State. (Davis, Martin). ARKANSAS - Heavier than usual this time of year, rather severely damaging some fields in southeast and southwest areas; counts ranged up to 135 per 100 terminals. (Warren). LOUISIANA - Found in 11 of 12 fields, Tallulah, and averaging 14 per 100 terminals. (Gaines et al). Light to heavy in Ouachita and Rapides Parishes. Per linear foot of row, 0-45 in Tensas and 3-6 in Bossier Parishes. (Oliver). MISSISSIPPI - Infestations range from light to medium in untreated fields in delta counties; damage to south delta cotton reported. (Merkl et al).

THRIPS - ARIZONA - Some increase in Pima County in fields treated earlier; slight decline in Maricopa County, June 3. (Ariz. Coop. Rept.). NEW MEXICO - Still general throughout Mesilla Valley fields. (Durkin). TEXAS - Injurious infestations continue in untreated late-planted fields in McLennan and Falls Counties. (Parencia et al). Injurious infestations continue in east, north half of south-central, central, north-central and northeastern areas; peak of migrations passed. (Davis, Martin). ARKANSAS - General but variable. (Warren). LOUISIANA - Some injury continues in late fields; population decreasing. (Gaines et al). MISSISSIPPI - Reported heavy on most young cotton not treated in delta area. (Merkl et al). NORTH CAROLINA - Heavy infestation in Union County; rather moderate in Cleveland and light in Halifax County. (Mistric). Heavy populations in Scotland County. (Cott. News Lett.). SOUTH CAROLINA - Damaging cotton in all Piedmont counties. (Cott. Lett.).

APHIDS - ARIZONA - Cowpea aphid (Aphis medicaginis) doing damage in limited areas near Marana, week of June 1; aphids showing general decline. (Ariz. Coop. Rept.). NEW MEXICO - Cotton aphids light to abundant in Mesilla Valley. Cowpea aphid (Aphis medicaginis) still present in Mesilla Valley. (Durkin). MISSOURI - Aphis gossypii damage occurring in widely-scattered spots in individual fields. (Jenkins). SOUTH CAROLINA - Damaging cotton in all Piedmont Counties. (Cott. Lett.).

SPIDER MITES - TEXAS - Causing damage in some untreated fields in lower Rio Grande Valley. (Deer).

PLANT BUGS - TEXAS - A mirid similar to Lygus bug causing damage in a few fields near Los Fresnos. (Deer).

COTTON LEAFWORM (Alabama argillacea) - TEXAS - First specimen of year found in San Patricio County in a field 7 miles southeast of Taft on June 9. (Greer).

WHITEFLY (Trialeurodes sp.) - ARIZONA - Still abundant near Sahuarita. (Ariz. Coop. Rept.).

A LEAF ROLLER (Platynota stultana) - TEXAS - Feeding on and cutting terminals of cotton. (Martin).

CABBAGE LOOPER (Trichoplusia ni) - TEXAS - An infestation reported in Elsa area in lower Rio Grande Valley. (Deer).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - TENNESSEE - Approximately 400 acres of pine in Unicoi, Carter and Johnson Counties have been killed. (Dozier).

DEODAR WEEVIL (Pissodes nemorensis) - MISSISSIPPI - Heavy mortality to experimental pine seedlings at Saucier. (Forest Serv.).

RED-PINE SAWFLY (Neodiprion nanulus) - WISCONSIN - Very abundant in some areas, causing complete defoliation of old needles of many trees in plantations in Dane, Columbia and Waupaca Counties. (Chambers).

RED-HEADED PINE SAWFLY (Neodiprion lecontei) - PENNSYLVANIA - Moderate infestation on pine throughout Luzerne County; some control begun. (Gesell).

PINE SPITTLEBUG (Aphrophora parallela) - WISCONSIN - Reported building up in northern area. (Chambers).

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana) - NEW JERSEY - Emerging in central area. (Merrill, June 7). OHIO - Vigorously attacking a planting of 6 to 8-year old red pine near Toledo. (Forst Serv.). MICHIGAN - Infestation widespread and severe; adults and pupae are present over southern Michigan as far north as Clare and Grand Rapids. (Hutson). WISCONSIN - Reported building up in nurseries in eastern area. (Chambers).

PINE NEEDLE MINER (Exoteleia pinifoliella) - MICHIGAN - Heavy infestations damaging pitch pine in Muskingum watershed district. (Forest Serv.).

A TORTRICID (Archips fervidana) - PENNSYLVANIA - Thousands of acres of scrub oak in Adams County with considerable defoliation. (Sleesman).

ENGRAVER BEETLES (Ips spp.) - ARKANSAS - Although no appreciable difference in overall occurrence and activity noted since last month, reports from Pope County to the Louisiana line indicate some increase in activity. (Ark. St. Forest. Comm., June 1).

PALES WEEVIL (Hylobius pales) - ARKANSAS - Most active damage in south-central areas and most severe in burned areas planted last winter. In Malvern area 200-acre infestation reported. (Ark. St. Forest. Comm., June 1).

FOREST TENT CATERPILLAR (Malacosoma disstria) - Defoliating tupelo, black and sweet gum in southwest ALABAMA and southwest LOUISIANA. (Forest Serv.).

EASTERN TENT CATERPILLAR (Malacosoma americanum) - DELAWARE - Adults numerous at lights in northern area. (Milliron).

FALL CANKERWORM (Alsophila pometaria) - NORTH CAROLINA - Egg mass surveys indicate moderate to heavy defoliation can be expected to "recur" in western areas which have been infested for past 3 or 4 years. (Forest Serv.).

BIRCH LEAF MINER (Fenusa pusilla) - PENNSYLVANIA - Birch leaves showing larval injury in Franklin, York, and Centre Counties. (Pepper). RHODE ISLAND - Injury very heavy over State with many trees showing severe injury and almost 100 percent of gray birch showing noticeable injury. (Kantack).

LINDEN LOOPER (Erannis tiliaria) - TENNESSEE - The cankerworm reported in CEIR 5(21):468 has been identified as this species. (Mullett).

GREAT BASIN TENT CATERPILLAR (*Malacosoma fragilis*) - COLORADO- Causing heavy damage to aspen in LaVeta Pass, Huerfano County. (Colo. Ex. F.).

A WOOLLY APHID (*Neoprociphilis aceris*) - DELAWARE - Destroying foliage at tips of branches of hard maple at Newark. (Milliron).

PLANT BUGS (*Plagiognathus albatus* and *Orthotylus* sp.) - DELAWARE - Abundant on sycamore throughout the State and causing severe foliage damage. (Milliron).

WALKINGSTICK (*Diapheromera femorata*) - WISCONSIN - Reported very abundant in Marinette and Oconto Counties, causing serious defoliation of oak and other deciduous trees. (Chambers).

SARATOGA SPITTLEBUG (*Aphrophora saratogensis*) - WISCONSIN - Apparently more abundant than last year in north central Wisconsin. (Chambers).

JAPANESE BEETLE (*Popillia japonica*) VIRGINIA - First adult in Norfolk County May 31, taken on rose. (Raine).

SPRUCE BUD SCALE (*Physokermes piceae*) - WISCONSIN - More abundant than usual in nursery plantings and parks. (Chambers).

COOLEY SPRUCE GALL APHID (*Chermes cooleyi*) - UTAH - Damaging some ornamental trees in Ogden area. (Knowlton).

SPRUCE NEEDLE MINER (*Taniva albolineana*) - WISCONSIN - Reported abundant in some nurseries of State. (Chambers).

BOXWOOD PSYLLID (*Psylla buxi*) - DELAWARE - Causing deformity of terminal leaves of American boxwood in New Castle and Kent Counties. (Milliron).

SPRING CANKERWORM (*Paleacrita vernata*) - WYOMING - Infesting boxelder trees in Goshen County. (Spackman).

ELM LEAF BEETLE (*Galerucella xanthomelaena*) - TENNESSEE - Heavy widespread infestation continues over State. (Mullett).

JUNIPER WEBWORM (*Dichomeris marginella*) - PENNSYLVANIA - Moths emerging from juniper in centre County. (Gesell).

WOOLLY ELM APHID (*Eriosoma americanum*) - UTAH - Attack on elms noticeable in several areas. (Knowlton).

BAGWORMS - IOWA - Young bagworms active on arborvitae and juniper. (Harris).

MAPLE BLADDER-GALL MITE (Vasates quadripedes) - RHODE ISLAND-Galls quite common on maples over the State; some trees quite heavily infested. (Kantack).

SPIDER MITES - NORTH DAKOTA - Building up in evergreen foundation plantings. (Goodfellow).

SAWFLIES - RHODE ISLAND - More than usual number encountered in nursery inspection this year. (Mathewson).

NARCISSUS BULB FLY (Lampetia equestris) - WASHINGTON - Emergence from concentraters at Sumner started May 29, latest ever noted in area. Peak emergence started June 6. (Doucette).

APHIDS - NEW MEXICO - Heavy populations on American elm in Mesilla Valley. (Durkin, June 4). COLORADO - Increasing to extent on ornamentals and warranting control in northeastern area. (Exp. Sta.). PENNSYLVANIA - Very heavy population of an aphid (Amphorophora crataegii) on Crataegus in an ornamental grove, Blair County; 50 percent of leaves dropped. (Udine).

A BORER (Oberea myops) - TENNESSEE - Damage to ornamental plantings of rhododendron in Unicoi County. (Dozier).

INSECTS AFFECTING MAN AND ANIMALS

BLOOD-SUCKING CONENOSE (Triatoma sanguisuga) - OKLAHOMA - Infestations found in apartment houses in Oklahoma City. (Thomas).

CATTLE GRUBS - UTAH - Heel flies have been running cattle in a number of areas and since May 1 in Utah County. (Knowlton).

LITTLE HOUSE FLY (Fannia canicularis) - MICHIGAN - Large populations on the Michigan State campus. (Hutson).

MOSQUITOES - COLORADO - Larval counts in drainage ditches at Ft. Collins 40-50 per cup; increasing. (Exp. Sta.). NORTH DAKOTA - Populations increasing following rains. (Goodfellow).

STABLE FLY (Stomoxys calcitrans) - OKLAHOMA - Populations average 30-40 per animal in central area. (Howell).

TICKS - RHODE ISLAND - Populations of *Dermacentor variabilis* remain heavy over the entire State. (Kantack). IOWA - Wood ticks observed on cattle in timber pasture in Shelby County in numbers up to 100 per animal. (Harris).

BENEFICIAL INSECTS

Populations of lady beetles, robber flies, syrphid larvae, and ichneumonids generally abundant in RHODE ISLAND. (Kantack).

LADY BEETLES - NEW MEXICO - Building up in alfalfa fields; *Hippodamia parenthesis* 30-100 per 100 sweeps; *H. convergens* 6 per 100 sweeps. (Durkin).

A BEETLE (*Collops vittatus*) - NEW MEXICO - A beneficial beetle has been collected from alfalfa in Mesilla Valley, 6 per 100 sweeps. (Durkin).

NABIDS - NEW MEXICO - Building up in alfalfa; from 50-100 per 100 sweeps reported in some fields. (Durkin).

MISCELLANEOUS INSECTS

EUROPEAN EARWIG (*Forficula auricularia*) - UTAH - Annoyance increasing in many areas. (Knowlton).

RECENT INTERCEPTIONS AT PORTS OF ENTRY

Of interest recently was the interception of living specimens of a fig wax scale (*Ceroplastes rusci* (L.) on fig cuttings in the mails from Italy at Chicago, Illinois. (Walton). This insect has been reported injurious to figs in parts of Europe, Asia, Australia, and South America. It is said to occur periodically, appearing in considerable numbers in occasional years, then practically disappearing for long periods. Severe injury has been reported in certain years in France, Egypt, and Israel. Economic injury to figs is due to the development of sooty mold in the honey dew excreted by the scales rather than actual insect feeding. The sooty mold mars the appearance and hinders the functions of the leaves, reduces the market value of the fruit, and makes the figs unsuitable for drying.

Observations on the biology of the insect in Israel indicate the young larvae appear in late April or early May. They are very active, wander about on twigs and leaves for about a week looking for a suitable feeding place, then settle down to feed on the upper side of the leaves near the veins. In about a month they migrate to the stems or young shoots and continue feeding. They mature in about 70-80 days, when winged adults appear. A second generation develops that matures in late fall to overwinter as adult scales and produce larvae in the spring.

In addition to fig, C. rusci has been reported feeding on citrus, holly, myrtle, pistachia, ruscus, chrysanthemum and other plants. It has been intercepted on a number of occasions at various ports on fig cuttings, plants, and fruit from the Azores, France, Germany, Greece, Israel, Italy, Japan, Portugal and Spain. It is not known to occur in the United States.

(Compiled by:
Plant Quarantine Branch)

ADDITIONAL NOTES

MARYLAND - ARMYWORMS have passed peak; heavy feeding on grain and corn at Ridge, St. Marys County. CUTWORMS causing moderate to heavy damage to corn in St. Marys County. EUROPEAN CORN BORER damaging wheat in Caroline County. SOD WEBWORM (Crambus sp.) has damaged two-thirds of a 7-acre corn field in Garrett County. Adults of LESSER CLOVER LEAF WEEVILS causing considerable damage to second-growth red clover in Kent and Queen Annes Counties. (U. Md., Ent. Dept.).

NORTH DAKOTA - CUTWORMS damaging vegetable transplants in several localities. (Goodfellow).

NEW YORK - Eggs of EUROPEAN CORN BORER found June 7 in Niagara County 12 days ahead of last year. (Stevenson). Light populations in Hudson Valley. (Adams).

IOWA - EUROPEAN CORN BORER - Activity retarded; about 10 percent of corn in central and northern areas susceptible now to heavy first brood damage with warm weather; up to 200 per 100 plants on 20-40 inch corn but some eggs scaling off. PEA APHID building up in red clover and alfalfa, ranging from 50-100 per sweep in heaviest infested areas. CLAY COLORED BILLBUGS destroyed sections of fields of corn in Pottawattamie and Harrison Counties. ALFALFA LOOPERS and caterpillars doing damage in some alfalfa fields. (Harris).

WEATHER FOR THE WEEK ENDING JUNE 13, 1955

Last week's weather east of the Rocky Mountains was unseasonably cool with frequent showers and much cloudiness in middle and northern areas. A few scattered damaging hail storms were reported in Iowa and Pennsylvania. The rains of last week replenished moisture in some northeastern areas, further improved subsoil moisture in the northern Great Plains, and maintained an adequate soil moisture supply elsewhere east of the Rockies except in extreme southern and southwestern parts of Texas, where drought still persists, and in parts of Florida and southern Georgia, where more rain would be beneficial.

Cool polar air overspread the area between the Continental Divide and the Mississippi River about midweek, reducing temperatures to near record low levels for June in Texas. The weather was unusually cool in north-central areas on the 12th and 13th, when maximum temperatures were generally in the 50's and 60's, and minimum temperatures in the upper 30's were recorded as far south as Iowa. Temperatures for the week averaged 10° to 13° below normal in the east-central Great Plains and central Mississippi Valley. In the Northeast cloudy weather held daytime temperatures to about 10° below normal, while nighttime temperatures averaged near normal. Warm, dry weather prevailed west of the Continental Divide. This was the first week with generally above normal temperatures west of the Continental Divide in several months. On the 8th and 9th maximum temperatures of 90° to 100° were recorded in Oregon and Washington. Seattle, Wash., reported a high of 100° on the 9th; Portland, Oreg., 95°; and Fresno, Calif., 98°; and Medford, Oreg., recorded 101° on the 8th. Dry north and east winds in the Pacific Northwest about midweek rapidly dried range lands. (Summary Supplied by U. S. Weather Bureau).

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Reports in this issue are for the week ending June 10, 1955 unless otherwise designated.

LIGHT TRAP COLLECTIONS

		Pseudal.	Prod.	Period.	Agrotis	Feltia	Heliothis		Proto.	
		unipunc.	ornith.	marg.	ypsilon	subter.	armig.	vires.	quin.	sex.
ARKANSAS										
Hope	6/8-9	5		4			7			
Stutlgart	6/3-9	14		13	1		6			
Van Buren	6/3-9	29		11	5		25			
Varner	6/3-9	6		12	2		26			
Fayetteville	6/3-9	35		13	13		31			
Clarksville	6/3-9	15		6	13		6			
LOUISIANA										
Baton Rouge*	5/27-6/10		233	6	14	626	13			
Bunkie	5/23-6/1	5	9	6		2	26			
Franklin	6/1-9	1	4	5		41				
St. Joseph	6/6-9		31				2			
Curtis	5/31-6/7	48	103	17	6	9	20			
Tallulah*	6/4-10	18	163	18	1	48	30	3		3
MISSISSIPPI (Counties)										
Coahoma	6/4-10	36	10	16	3	1	16			
Humphreys		18	35	7	2	6	1			
Oktibbeha		84	187	9	4	6	4			
Pearl River		12		2		2	3			
Washington*		197	360	175	56	31	63	2		7 spp.
ALABAMA										
Auburn	6/4-10		23				19			2

* Two traps at Baton Rouge, 3 at Tallulah, 2 in Washington County.

LIGHT TRAP COLLECTIONS

		Pseudal	Prod.	Period.	Agrotis	Feltia	Heliothis		Proto.	
		unipunc.	ornith.	marg.	ypsilon	subter.	armig.	vires.	quin.	sex.
GEORGIA (Counties)										
Tift	5/30-6/4		3							2
Clarke	5/30-6/3	5	3			6	4			
Spalding	5/30-6/3	13	4		9	6	25 sp.		1	1
TENNESSEE (Counties)										
Madison	6/2-8								11 spp.	
Lawrence		32			4				9	2
Maury		1,684	24	156	8				9	22
Robertson									14 spp.	
Cumberland		1		2			5		13	9
Knox							16		5	1
Greene		8	4						11	3
SO. CAROLINA (Counties)										
Oconee	6/5-11	21	4				2 sp.			2
Charleston	5/30-6/6			2	1	3				5
KANSAS										
Wathena	6/1-7	38					2			

Some other collections of interest: LA. *Loxostege similalis* 1756, (Tallulah), *Laphygma frugiperda* 4 (Tallulah), 7 (Baton Rouge). GA. *Elasmopalpus lignosellus* 24 (Spalding), 9 (Tift). KANS. *Chorizagrotis auxiliaris* 19 (Manhattan), 175 (Hays).

Notes: ARK.-Bollworm moth flights continue to increase, armyworm moth flight declining. LA.-Bollworm moths increasing, *Feltia subterranea* has been heavy at Baton Rouge. TENN.-Hornworm moths and sugarcane beetle reduced, second-generation armyworm moths in Maury County. *Correction*: S.C. (CEIR 5(23):528) number of *C. vagus* taken at Charleston should read 1090 not 1427.

SURVEY METHODS

JAPANESE BEETLE (POPILLIA JAPONICA)

Methods Used by the Japanese Beetle Laboratory, Entomology Research Branch

The presence of the Japanese beetle in an area can be detected by placing bait traps at suitable sites during the period of flight of the adults. The density of the population can be estimated by observing the extent of feeding by the adults on favored food plants and by the examination of soil at selected sites to determine the number of grubs present.

Traps are of value in determining the presence of beetles in areas remote from the generally infested region. In these areas traps attract and capture beetles even when a diligent search often fails to reveal their presence. Beetles are drawn from the leeward to a trap by means of an attractant. Most of those captured fly into the superstructure of the trap and fall into a receptacle from which they can not escape. The trap consists of a four-winged baffle mounted on top of a funnel, a device for holding the dispenser of the attractant, and a receptacle for holding captured beetles, and is painted a high luster yellow. The attractant is a 10:1 mixture of technical geraniol and U.S.P. eugenol by volume or a 9:1 mixture of technical anethole and U.S.P. eugenol by volume and is dispensed by means of a bottle and wick. The details with reference to the trap are given in U.S.D.A. Circular 594. The best results are obtained when a trap is hung on a rod or other suitable support in a sunny location so that it is 4 to 5 feet above the ground and to the windward of plants most subject to attack. It should not be closer than 10 to 25 feet to plants on the leeward. If located so that the odor of the attractant is carried across an open field, a trap may attract beetles from a distance of 500 yards. When trees, buildings and other obstacles deflect and impede the movement of air, the zone of attraction is reduced considerably. When a trap is favorably placed, it can be expected to capture about three-fourths of the beetles attracted to it.

The density of the adult population in an area can be estimated when the beetles are present in the greatest numbers or when the injury by feeding is the most noticeable. The tree hosts most useful in estimating feeding damage are elm, horsechestnut, linden, Lombardy poplar, Norway maple, planetree, white birch, willow, apple, cherry, peach, and plum. The low-growing plants and vines most useful for this purpose are elder, grape, sassafras, smartweed, and Virginia creeper or woodbine. Althea, dahlia, rose, and zinnia are often good indicators, and asparagus, alfalfa, clover, corn, and soybeans are sometimes useful when examining fields and gardens. In some areas other plants may be used in estimating the feeding; a complete list of the food plants of the beetle is given in U.S.D.A. Circular 547. The lacy appearance of the damaged leaves on most plants within the infested area may be attributed to feeding by the Japanese beetle, but the foliage on representative plants should be carefully examined to determine that the injury was caused by the beetle. Of course, estimates of feeding should not be made on plants that have been sprayed or dusted with an insecticide. Usually in making a survey of an area, observations are made from a car driven slowly along the roads, and the extent of feeding is recorded at various points on a map according to the following numerical system:

(1) Very severe. Over 50 percent of the host trees entirely brown from beetle feeding; vine hosts completely defoliated.

(2) Severe. From 25 percent to 50 percent of tree hosts mostly brown; nearly all vines defoliated.

(3) Moderately severe. From 10 percent to 25 percent of tree hosts brown; heavy feeding on vines.

(4) Moderate. Less than 10 percent of host trees partly brown; moderate feeding on vines.

(5) Light. Tree hosts not showing brown though there may be evidence of light feeding on close examination; light feeding on vines apparent from a short distance.

(6) Very light. Occasional light feeding that is apparent only on close examination. The beetles or eaten leaves are located only after a search.

With the symbols indicating the extent of feeding on the map, it is then possible to make a general estimate of the density of the Japanese beetle population in the area.

The examination of soil for the immature stages of the beetle is usually limited to a specific lawn, golf course, park or pasture, and is conducted to determine whether the injury to the grass is caused by the grubs feeding on the roots and to determine the density of the population in the soil. Many areas of turf in the eastern part of the United States have been ruined by these grubs. In making the examination, a square foot of sod is removed to a depth of 3 or 4 inches and placed in a large tray or other suitable container. The soil is removed from the roots and examined carefully to determine the number of grubs present. The procedure is repeated at other spots until a sufficient area has been examined to establish approximately the severity of the infestation. Usually 12 or 15 spots are enough to obtain a general estimate of the density of the population in a suburban lawn. (W. E. Fleming).

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